

Claims

1. A capsule filling machine (10) for the production of hard gelatin capsules (C) of the type with a capsule lid and a capsule body (13, 14) containing particles (12) of pharmaceutical material, in particular micro-tablets (12) or pellets, the machine (10) comprising a first rotary carrousel (2), which supports a plurality of slide units (3) for picking up and handling the capsules (C) in order to open then close the capsules (C) by separating then joining the capsule lids (13) and the capsule bodies (14); a second carrousel (4), which rotates in such a way that it is synchronised with the first carousel (2), having a plurality of reciprocating doser means (21) moving between a first operating position in which the doser means (21) are designed to pick up particulate material (12) from a tank (11) containing the material which is attached to the machine (10) and a second operating position in which they release the material into the capsule (C) bodies (14); the machine being characterised in that the doser means (21) each comprise a hollow nozzle (22) with a plurality of seats (25) on its edge for picking up and holding the particulate pharmaceutical material (12), each seat (25) communicating with pneumatic means (24, 24a, 24b), the pneumatic means (24, 24a, 24b) comprising pneumatic vacuum means (24a) which, in the first operating position, suck up and hold individual particles (12) of the material in respective seats (25) of the nozzle (22), and pressurised pneumatic means (24b) which generate a flow that discharges the particles (12) from the seats (25) in the second operating position to allow the above-mentioned release into the capsule (C) bodies (14).

2. The capsule filling machine according to claim 1, characterised in that the seats (25) on the edge are arranged on the surface of the nozzle (22) separated by angular spaces that are equal and relative to a longitudinal axis (Z') of the nozzle (22).

3. The capsule filling machine according to claim 2, characterised in that the angular spaces have an angle ( $\alpha$ ) equal to 120° between adjacent seats (25).

4. The capsule filling machine according to any of the foregoing claims from 1 to 3, characterised in that the first carrousel (2) has a substantially funnel-shaped chamber (19) designed to engage with the nozzle (22) in the second operating position, allowing and  
40 facilitating particle (12) infeed into the capsule (C) body (14).